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10/661,189	09/12/2003	Darwin Mitchel Hanks	200310345-1	8310

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EXAMINER

LAMB, CHRISTOPHER RAY

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 11/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/661,189

Applicant(s)

HANKS ET AL.

Examiner

Christopher R. Lamb

Art Unit

2627

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4, 7, 8, 13-22, 25-35, 38-40, 45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 8, 13-22, 25-35, 38-40, 45 and 46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2 total</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 14, 17, 18, and 27-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claim 14:

The claim states "the electromagnetic radiation radiated from the reflective regions of the pattern or from the magnetic regions of the pattern originated from the electromagnetic radiation source directed at the rim."

In the case of the reflective regions of the pattern, this claim is enabled: an electromagnetic radiation source directed at the reflective regions is described in the specification.

However, in the case of magnetic regions, the specification specifically states that "In an alternate embodiment, reflection regions 6 are instead magnetic regions 6 and non-reflective regions 8 are instead non-magnetic regions 8. In this embodiment, no electromagnetic radiation source 12 is necessary aside from magnetic regions 6, as

Art Unit: 2627

magnetic regions 6 are themselves sources of electromagnetic radiation" (paragraph 16).

Thus in the case of the magnetic regions, the claimed subject matter is not enabled: the electromagnetic radiation radiated from the magnetic regions of the pattern does not originate from an electromagnetic radiation source directed at the rim. There is no embodiment of the invention disclosed that includes both the magnetic regions and an electromagnetic radiation source directed at the rim.

Regarding claims 17 and 18:

They are dependent on claim 14.

Regarding claim 27:

It is similar to claim 14 and similarly rejected.

Regarding claims 28-33:

They are dependent on claim 27.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 7, 13-16, 18-21, 25-29, 31, 33, 34, 38-40, and 45 are rejected under 35 U.S.C. 102(b) as being anticipated by Satoh et al. (US 5,119,363).

Regarding claim 1:

Satoh discloses:

A method of using electromagnetic radiation to sense media speed, the method comprising:

rotating a media having a pattern of reflective and non-reflective regions aligned circularly about a rim of the media or a pattern of magnetic and non-magnetic regions aligned circularly about a rim of the media (Fig. 8: the pattern is the index marks 20; that they consist of reflective and non-reflective regions is shown in Fig. 9, and described with relation to an earlier embodiment in column 5, lines 15-25);

sensing a frequency of electromagnetic radiation radiating from the reflective regions of the pattern or from the magnetic regions of the pattern with a stationary detector (column 6, line 55 to column 7, line 5: generating the pulse train signal is equivalent to sensing the frequency); and

controlling, with the sensed frequency, a rotational speed of the media (column 6, line 55 to column 7, line 5: controlling the "phasic synchronism of the disk drive motor").

Regarding claim 2:

The method of Satoh further includes determining from the sensed frequency a rotational speed of the media (column 6, line 55 to column 6, line 5: it uses the pulse train to control the disk drive motor, in the process determining the rotational speed).

Regarding claim 3:

In the method of Satoh the pattern comprises a spoke pattern on the media (that the index marks 20 are lined up in spokes is visible in Fig. 9).

Regarding claim 4:

In the method of Satoh the pattern comprises a gear-tooth pattern on the media (Fig. 9B; column 6, lines 25-40: the larger grooves are formed of smaller grooves, meaning that viewed from the side each of the grooves 21 would form a gear-tooth pattern).

Regarding claim 7:

In the method of Satoh the rim comprises an inner rim of the media (apparent from Fig. 8).

Regarding claims 13, 15, 16, and 21:

The method of Satoh is implemented in a mass storage device (abstract). All other elements of these claims have already been identified with respect to earlier rejections. No further elaboration is necessary.

Regarding claim 14:

The mass storage device of Satoh further includes an electromagnetic radiation source directed at the rim, wherein the electromagnetic radiation radiated from the reflective regions of the pattern or from the magnetic regions of the pattern originated from the electromagnetic radiation source directed at the rim (column 6, line 55 to column 7, line 5; it is more clearly described in the earlier embodiment referred to there in column 5, lines 1-15).

Regarding claim 18:

The electromagnetic radiation source includes a non-coherent electromagnetic radiation source (column 5, lines 1-15: an LED is such a source).

Regarding claim 19:

In Satoh the rotation device includes a spindle coupled to the media and a motor coupled to the spindle (both shown in Fig. 10).

Regarding claim 20:

In Satoh the controller includes a motor controller configured to control the motor (column 6, line 55 to column 7, line 5).

Regarding claim 25:

In Satoh the controller includes radial positioner for controlling a placement of a beam of the electromagnetic radiation on the media (column 7, lines 25-55).

Regarding claim 26:

Satoh discloses:

A mass storage device having media that is rotateable (Fig. 10), comprising:

means for sensing electromagnetic radiation with a stationary sensor (Fig. 10: 11) from a pattern of reflective and non-reflective regions aligned circularly about a rim of the media or a pattern of magnetic and non-magnetic regions aligned circularly about a rim of the media (Fig. 8; Fig. 9);

means for controlling the rotational speed of the media based on the sensed electromagnetic radiation (column 6, line 55 to column 7, line 5)

means for positioning radially an electromagnetic source with respect to a surface of the media (column 6, line 55 to column 8, line 25: in short, the laser of the optical pickup is positioned during the writing operation); and

Art Unit: 2627

means for controlling exposure of the media by the electromagnetic source in conjunction with the means for controlling and the means for positioning (column 6, line 55 to column 8, line 25).

Regarding claims 27-29, 31, 33, 34, and 38:

All elements positively recited have already been identified with respect to earlier claims (regarding claim 33, a source and an emitter are the same thing). No further elaboration is necessary.

Regarding claims 39, 40, and 45:

A program storage system readable by a computer, tangibly embodying a program, applet, or instructions executable by the computer to perform the method of Satoh is inherent to Satoh. All other elements of these claims have already been discussed with regards to earlier rejections.

5. Claims 1, 8, 13, and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Horikawa et al. (US 4,884,259).

Regarding claim 1:

Horikawa discloses:

A method of using electromagnetic radiation to sense media speed, the method comprising:

rotating a media having a pattern of reflective and non-reflective regions aligned circularly about a rim of the media or a pattern of magnetic and non-magnetic regions aligned circularly about a rim of the media (shown in Fig. 1);

Art Unit: 2627

sensing a frequency of electromagnetic radiation radiating from the reflective regions of the pattern or from the magnetic regions of the pattern with a stationary detector (column 6, lines 45-65); and

controlling, with the sensed frequency, a rotational speed of the media (column 6, lines 45-65).

Regarding claim 8:

In Horikawa the rim comprises an outer rim of the media (apparent in Fig. 1).

Regarding claims 13 and 22:

The method of Horikawa is for use in a mass storage device (abstract). All other elements of these claims have already been identified with respect to claims 1 and 8.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17, 30, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh (US 5,119, 363).

Regarding claim 17:

Satoh discloses a mass storage device as discussed in the rejection of claim 14.

Satoh does not disclose wherein "the electromagnetic radiation source includes a coherent electromagnetic radiation source."

Satoh instead discloses a non-coherent radiation source (column 6, lines 55-65; column 5, lines 1-15).

However, Satoh separately discloses a coherent radiation source (the laser of optical head Fig. 10: 28) which can be used for a similar purpose (detecting marks on the optical disc: column 1, lines 1-25).

It would have been obvious to one of ordinary skill in the art to substitute for the non-coherent radiation source used by Satoh a coherent radiation source such as the one elsewhere used by Satoh, because the coherent and non-coherent sources are used in the same environment, for the same purpose, and achieve the same result. Furthermore, one of ordinary skill in the art would have expected the mass storage device of Satoh to work equally well with a coherent source as with the non-coherent source.

Regarding claims 30 and 32:

These claims are similar to claim 17 and are similarly rejected.

8. Claims 35 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh in view of Honda (US 2002/0191517; cited in previous action).

Regarding these claims:

Satoh discloses a mass storage device and/or program storage system as discussed above in the rejection of claims 26 and/or 39.

Satoh does not disclose "wherein the means for controlling rotational speed includes a motor controller configured to control the rotational speed of the media to 0.25 meters/second at an accuracy of 0.02 percent."

Satoh also does not disclose wherein "controlling a rotational speed of the media includes controlling the rotational accuracy of a spindle onto which the media is fixed to allow placement to within a quarter of a pixel at 600 dpi on the media."

There is no reason for Satoh to disclose these numbers, because these are printing specifications and Satoh does not print to the disk.

However, Honda discloses an optical disk drive which can print to the label side of a disk (abstract). Honda discloses this obviates the need for a separate printer (paragraph 4).

It would have been obvious to one of ordinary skill in the art at the time of the invention to include in Satoh the capability of printing to the label side of the disk, as disclosed by Honda.

The motivation would have been to obviate the need for a separate printer.

(Note that Satoh discloses putting index marks on both sides of a disk: column 10, line 55 to column 11, line 2. Thus it would be obvious to one of ordinary skill in the art that in Satoh in view of Honda there would be index marks on both the regular and label sides of the disk: thus the operation of controlling the rotational speed would be the same for both sides).

Satoh in view of Honda still does not disclose wherein "wherein the means for controlling rotational speed includes a motor controller configured to control the rotational speed of the media to 0.25 meters/second at an accuracy of 0.02 percent" or "controlling a rotational speed of the media includes controlling the rotational accuracy

Art Unit: 2627

of a spindle onto which the media is fixed to allow placement to within a quarter of a pixel at 600 dpi on the media.”

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include these speeds and accuracies.

The motivation would have been: in the course of routine engineering optimization/experimentation to determine the necessary print accuracy. Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in these claims are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Response to Arguments

9. Applicant's arguments with respect to all the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

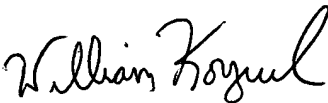
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lamb whose telephone number is (572) 272-5264. The examiner can normally be reached on 8:30 AM to 6:00 PM Monday to Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on (571) 272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2627

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL 10/25/06


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